

## PICTURE OF THE MONTH

FRANCES C. PARMENTER

National Environmental Satellite Center, ESSA, Washington, D.C.

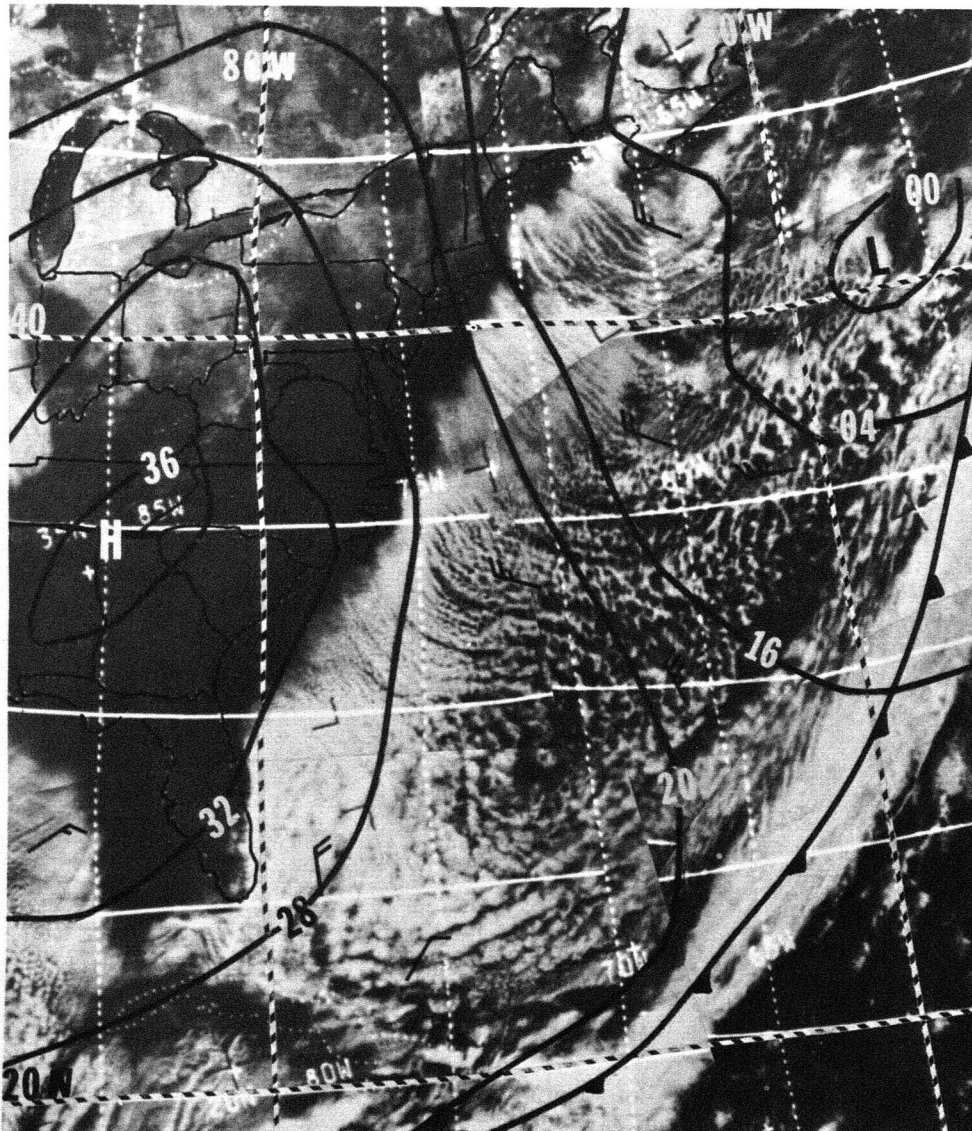
In late February a strong Arctic outbreak moved south-eastward from western Canada toward the east coast of North America. By February 26, 1967, this Arctic air dominated the entire eastern third of the United States, bringing freezing temperatures as far south as northern Florida and below zero temperatures to Ohio, Kentucky, Illinois, and Indiana.

At the time of this ESSA 3 photomosaic, the Arctic High was centered in northern Georgia as shown by the surface analysis (1800 GMT February 26, 1967).

The low center and trailing multilayered frontal band lie along the right side of the picture. The snow deposited in the wake of the storm is visible from the lower Great Lakes region, northeastward through the New England states.

Of particular interest are the cumulus cloud bands lying off the eastern seaboard. Bands of this type occur when

cold continental air is rapidly heated from below by underlying warmer waters. Where the offshore flow is perpendicular to the coastline, a clear zone, 40 to 60 miles in width, appears between the coast and the place where clouds can first be detected by the satellite. Narrow cloud lines appear just east of the clear zone and gradually increase in width downstream. Just offshore, the clouds composing these narrow bands are limited in vertical extent, and lie parallel to the surface wind flow. As the bands become broader, the clouds penetrate a deeper layer and lie more nearly parallel to the thermal gradient to the rear of the front. Another feature is the appearance of the cloud bands east of Florida. In this area, where the low-level flow is anticyclonic around the ridge line extending southeastward from Florida, the clouds appear as closed cells. This suggests that convection here is inhibited by increased vertical stability.



Photomosaic from ESSA 3, passes 1849-1850, 1750-1900 GMT, February 26, 1967, with the 1800 GMT NMC surface analysis superimposed.